

INTERNATIONAL SEARCH REPORT

International Application No
PCT/EP2004/012285

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 C03B17/04 C03B5/167

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC 7 C03B

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, PAJ

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	DE 454 877 C (GLASWERKE RUHR AKT.-GES) 19 January 1928 (1928-01-19)	1,2, 15-21, 23-30
Y	page 1, lines 54-67; figure 1	22
X	US 2 583 431 A (LAIDIG ALFRED H ET AL) 22 January 1952 (1952-01-22) column 5, lines 30-40; figure 2	1,15, 17-21
X	EP 1 072 569 A (SCHOTT GLAS; CARL-ZEISS-STIFTUNG TRADING AS SCHOTT GLAS; CARL-ZEISS) 31 January 2001 (2001-01-31)	6-21, 23-30
Y	paragraphs '0015!, '0016!, '0041!, '0044!; claims 1,2	22
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☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

* Special categories of cited documents:

- *A* document defining the general state of the art which is not considered to be of particular relevance
- *E* earlier document but published on or after the international filing date
- *L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- *O* document referring to an oral disclosure, use, exhibition or other means
- *P* document published prior to the international filing date but later than the priority date claimed

- *T* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- *X* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- *Y* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- *G* document member of the same patent family

Date of the actual completion of the international search

10 February 2005

Date of mailing of the international search report

21/02/2005

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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 3 236 619 A (FRYE HARRY D ET AL) 22 February 1966 (1966-02-22)	6-21, 23-30
Y	column 4, lines 14-31; figures 1,3 column 1, lines 44-49 column 2, lines 1-7	22
Y	US 6 595 029 B1 (DICK ERHARD ET AL) 22 July 2003 (2003-07-22) cited in the application claim 1	22
X	US 3 269 821 A (VATTERODT KARL) 30 August 1966 (1966-08-30) column 3, lines 13-16; figures 1,3	1,2,15, 28,29
A	GB 2 376 684 A (* CARL-ZEISS-STIFTUNG) 24 December 2002 (2002-12-24) p.3, Description of Fig.1figure 1	6,12
A	FR 2 130 174 A (PATENT TREUHAND GMBH ELE; PATENT TREUHAND GMBH ELE,DT) 3 November 1972 (1972-11-03) claim 2; figure 1	26
A	PATENT ABSTRACTS OF JAPAN vol. 2000, no. 02, 29 February 2000 (2000-02-29) & JP 11 322350 A (NIPPON ELECTRIC GLASS CO LTD), 24 November 1999 (1999-11-24) abstract	6,18-21

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Box II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☐ Claims Nos.:
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this International application, as follows:

see additional sheet

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☒ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1-5, 15-25 (part), 27-30 (part)

Mandrel and method for making glass tubes or rods, where the mandrel has a self-supporting metal material jacket.

2. claims: 6-14, 15-25 (part), 26, 27-30 (part)

Mandrel and method for making glass tubes or rods, where the mandrel comprises an inner ceramic body and a metal material jacket, both materials having similar thermal expansion coefficients.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/EP2004/012285

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
DE 454877	C	19-01-1928	NONE	
US 2583431	A	22-01-1952	NONE	
EP 1072569	A	31-01-2001	BR 9903379 A DE 19803327 A1 US 6274525 B1 EP 1072569 A1 AT 226566 T DE 59903172 D1	13-03-2001 05-08-1999 14-08-2001 31-01-2001 15-11-2002 28-11-2002
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JP 11322350	A	24-11-1999	NONE	